

## 3.2 - ACCESS PATHS

### PURPOSE:

The purpose of this chapter is to provide guidance for evaluating plans for access paths to water bodies and will primarily address residential access. On private lands, removal of vegetation is allowed for an owner to walk to the shoreline of their property. Any path should be appropriately designed so as to preserve the functions of the buffer, especially with respect to the prevention of erosion.

### REGULATIONS:

§9 VAC 10-20-130.5.a states that:

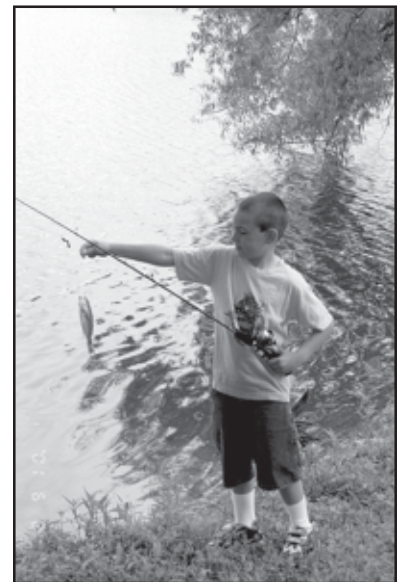
“In order to maintain the functional value of the buffer area, existing vegetation may be removed, subject to approval by the local government, only to provide for reasonable sight lines, access paths, general woodlot management, and best management practices, including those that prevent upland erosion and concentrated flows of stormwater, as follows:

(2) “Any path shall be constructed and surfaced so as to effectively control erosion.”

### DISCUSSION:

The desire humans have to reach water for simple viewing, fishing, crabbing, swimming, or boating, is natural. The Regulations allow the removal of vegetation to create an access path to the water. For the purpose of this manual, an access path means a reasonably narrow pathway through the buffer to provide access to the water. Access for wheelchairs, motorized or not, is included in this definition. Bike paths or bridle paths would be considered “passive recreation facilities” and are dealt with in Chapter 4. Driveway access to put in a boat may be considered under 9 VAC 10-20-130.1 and is subject to the development criteria stated therein.

In order to reach the water, landowners will either create a path by constant trampling or by planning a path to be constructed in such a way as to limit the likelihood of erosion. Depending upon the degree of use, different materials and construction techniques can be used to minimize the erosion effects of a path through the buffer. A private





This residential community path curves to avoid big trees, is only a couple of feet wide and has a porous gravel paving.

residential property would not typically require a path of the same width or material as a community access path would, since it would not see the same amount of daily use.

Access paths should be sited to fit into the character of the land. Existing open areas should be used and the path should wind around any large vegetation. The path should avoid disturbing the groundcover, leaf litter and mulch within the buffer as well as the existing woody vegetation. While it may be easy to site a residential footpath to avoid big trees and shrubs, there may be some plant removal in order to site the path in the least disruptive location.

Placing a path along banks, bluffs and sloping areas requires greater consideration and may require steps to protect the shoreline. Boardwalks, stairways or banking the path along the slope may be part of the design. However, should banking a path into the slope require significant removal of vegetation, an alternative should be considered. Removal of a quantity of vegetation would increase erosion and not be consistent with the General performance criteria that states that:

***“...indigenous vegetation shall be preserved to the maximum extent practicable, consistent with the use or development proposed.”***

Should a large amount of vegetation have to be removed, best management practices may dictate that replacement planting should be included in the plans to maintain the function of the buffer.

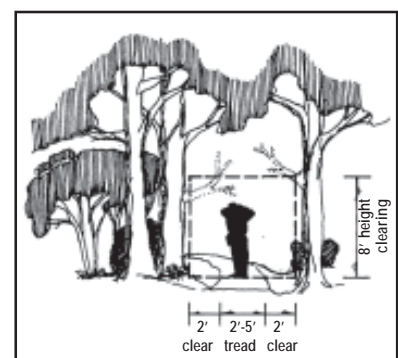
## **SOLUTIONS:**

### **Access**

An existing forested buffer on a residential property should be able to accommodate an access path without much disturbance to the vegetation. As noted above, the path should be located to avoid the majority of the existing vegetation and should wind around existing large trees and shrubs. On some occasions an access path to the water on a residential site may require some judicious removal of shrubs and small understory saplings.

Pruning of trees and shrubs should be the preferred method of clearing an access path through the buffer. Preferably, pedestrian paths should be kept to a 2-foot wide single lane. Wheelchair paths will need to be wider. Pruning of tree branches should not exceed 8 feet in height.<sup>1</sup> When some clearing is required, it should be limited to the pathway area and a maximum width 2 feet on either side of the path.

To minimize the effects of erosion on the sides of paths, native vegetation, or additional mulch, should be used to cover exposed soil. Herbaceous material or additional shrubs may be planted downslope of a path to help retard runoff and prevent erosion.



Path tread and height clearing standards.

## Paving

If a significant amount of leaf litter (2" - 4") is present and can be left in place, no other paving material may be necessary. Should frequent use be expected, some additional material may be required. If a paving material is needed to protect exposed soil, mulch, shell, gravel, stepping stones or other permeable material should be used. Three to four inches of mulch would be the first choice of material, since it is very permeable and does not compact into a hard surface. It is inexpensive, easily replaced, holds water, and adds organic material to the soil, enhancing the denitrification potential of the buffer.

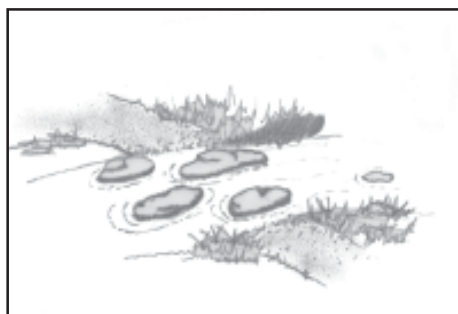
Impervious paving material should not be used for residential pedestrian paths, except for stepping stones. Even paths designed for those with disabilities can be made from semi-permeable granular stone compacted to an accessible surface. Paths subject to more frequent use, such as in residential communities may also require paving to prevent erosion, but pervious surfaces should be used where possible.

## Slopes

While slopes of 5% or less may not be subject to much erosion and can handle relatively straight paths towards the water, steeper slopes may require better planning to minimize potential impacts. Paths on slopes of 5% or greater should be located so as to take advantage of the terrain rather than running perpendicular to the slope. A sloping path cutting straight through the buffer towards the stream bank or shoreline is more likely to concentrate the overland flow. The increased speed and concentrated flow of water keeps the buffer from fulfilling its function of reducing runoff and erosion and preventing pollutants from reaching the water.



A wooden stairway may be the only feasible means of getting down a high bluff or steep slope.



Stepping stones can provide a suitable crossing.

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Porous paving or surface materials, such as mulch, crushed shell or gravel, should be considered for paths on increasing slopes that may be more prone to erosion. Paths on sloping terrain above 10% should follow the contours of the slope, slowly descending to the water, taking advantage of natural land features and vegetation. However, complete, or even excessive, removal of vegetation to achieve a ramped slope should not be allowed. A solution that does not promote erosion must be found. For slopes of 15% or greater, the path may be designed with a combination of ramping and wooden steps for steeper slopes, or a wooden stairway if descending a bluff to the shore. Such steep sloping paths may also require additional surfacing material.

### Stream crossings

Stream crossings should be kept as compatible with the existing stream condition and surroundings as possible. The crossing should take place where there is little disruption of the bank. Ideally the crossing would take place on a well-defined stream channel, at the point of minimal channel width, and a flat stream gradient. There should be stable, gradual slopes on either side of the stream crossing.<sup>2</sup> If in an area where there is infrequent use of a crossing, stepping-stones may provide the least disruptive, most effective solution.

#### NOTE:

Stream crossings may require permits from :

- **Army Corps of Engineers (ACOE)**
- **Department of Environmental Quality (DEQ)**
- **Virginia Marine Resources Commission (VMRC)**

or other federal, state, local agencies or boards depending upon the location and nature of the project.

### Community access paths

Private access paths through subdivision buffers, or multi-family complexes, owned and maintained by a homeowner's association would be used more frequently, so greater thought must be given to location and paving. Slopes, topography and soils should be taken into consideration as well as the intensity of use.

A path in a small subdivision might not see heavy use. A thick layer of leaf litter or mulch may be sufficient to prevent erosion along a pedestrian path, as long as it is well planned and fits on the site. Frequent use, unstable soils or slopes greater than 5% may require packed shell, gravel or other pervious paving to prevent erosion. The least pervious surfacing should be used that will sustain the intensity of use expected.

**CONCLUSIONS:**

- Access paths should be limited to the minimum width necessary for the use (pedestrian, wheelchair, etc.) in order to preserve as much vegetation as is feasible.
- Ideally, the path should wind around existing trees and shrubs rather than remove vegetation. Removal of large shrubs or trees should be avoided. However, pruning may occur to create a passage through the vegetation.
- Paving material or other path surfacing should be pervious. Mulch should be the first choice of surfacing material. Shells, gravel, stepping stones, or other porous paving material may be used where frequent use, slopes or other factors would result in erosion otherwise occurring.
- Plantings along the side of paths should be used to mitigate the effects of runoff and prevent soil erosion.

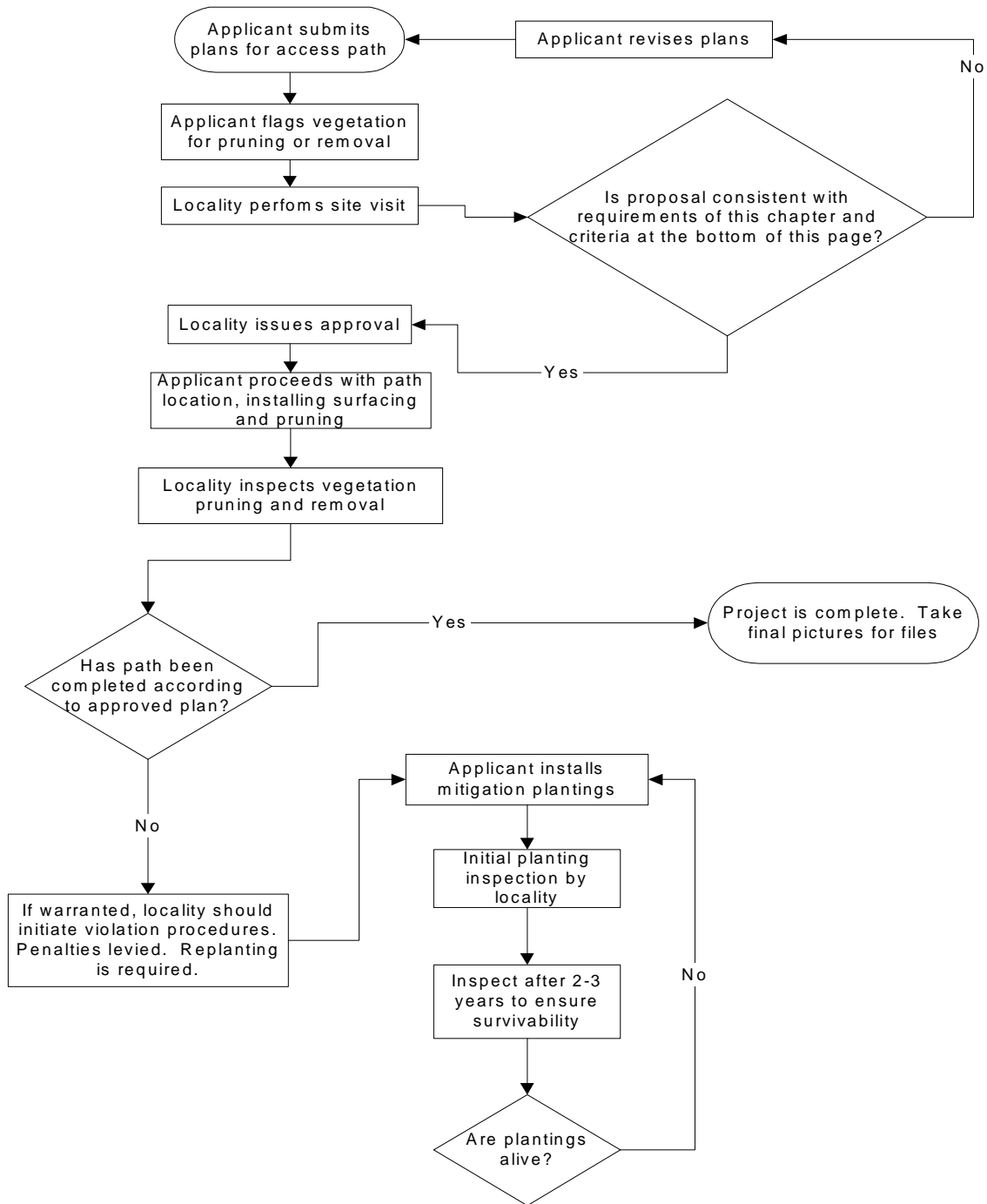
**RECOMMENDED PROCEDURE FOR LOCAL GOVERNMENTS:****Residential**

- 1) The local authority should require the applicant to request a permit to create a path if:
  - a) The path location will require any tree or shrub pruning or removal.
  - b) The applicant proposes any paving material.
  - c) The path (including any steps) is on a 5% or greater slope, or drops down a bank or bluff.
- 2) The application for a permit should include a plan that shows:
  - a) The proposed location of the path through the buffer.
  - b) Existing trees or shrubs to be pruned or removed.
  - c) The location, name, and size of replacement plantings for vegetation removed.
    - i) Replacement ratio should be a one to one replacement of the same type of plant: i.e. a large shrub should replace a large shrub removed, an understory tree replace an understory tree, or a canopy tree replace a canopy tree; or consider the Vegetative Replacement Standards table in Appendix D.
- 3) A locality staff member should meet with the applicant on site to evaluate the existing vegetation, soils and slope to determine the least disruptive solution to path placement and paving materials.
  - a) Adjustments to the path location to avoid sensitive areas



- (such as wet soils or valuable vegetation) should take place at the visit.
  - b) Any trees and shrubs to be pruned or removed should be evaluated to see if an alternative location for the path might be chosen.
    - i) Any plants that are to be pruned or removed should be flagged or otherwise marked at this time.
  - c) Location of replacement plantings should be identified at this time, to encourage even coverage of vegetation within the buffer.
  - 4) The locality should issue a permit based on a plan showing the agreed upon solution.
    - a) If it has the authority and it is considered feasible for the specific application, the locality may require a performance guarantee of some type to assure replacement should the plants not survive.
  - 5) If extensive modifications are required to locate the path, a staff member should inspect the site after path location and replacement plantings have occurred to assure that the agreed upon plan has been followed.
    - a) Staff should inspect the site after a year to assure that the plantings have survived.
      - i) If the plants look healthy at that time, the surety may be released.
      - ii) If the plants have not survived, replacement plants must be installed and a new performance agreement could be issued to cover the new plantings.
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## Recommended local review and approval process for access paths



### Suggested review criteria for sightline and vista clearing projects:

1. Has pruning been considered before removal of vegetation?
2. Is there an opportunity to remove dead, diseased, or non-natives species to provide a path location?
3. Are the proposed clearing and/or pruning methods consistent with the recommendations in this chapter?
4. Is the proposed path location "reasonable?"

<sup>1</sup> Parsons Harland Bartholomew & Associates, Inc. (Oct. 2000). *The Virginia Greenways and Trails Toolbox: A how-to guide for the organization, planning, and development of local greenway and trails programs in Virginia*. Virginia Department of Conservation and Recreation. p. 4-37.

<sup>2</sup> US Forest Service. *Trails Management Handbook*. FSH 2309.18. Section 3.12d Stream Crossings. <<http://www.fs.fed.us/im/directives/fsh/2309.18/2309.18,3.txt>>